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# Addiction Medicine: The Good, the Bad and the Ugly

Darrin Mangiacarne, DO, MPH, CPEy Courage Wisdom Hope Trust Serenity Courage Wisdom Ho

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#### **Financial Disclosures**

- Still over \$165,000 in debt from medical school
- This talk is sponsored by no one

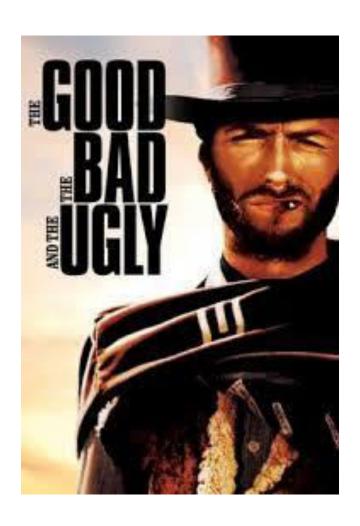


### Objectives

- Introduce the emerging field of addiction medicine
- Relieve you of the misconception that opioids are necessary for chronic pain management
- Understand the backdrop to the opioid epidemic and how we can get out of it
- Understand that heroin use is the natural consequence of the gross over-prescribing of opiates



#### THE GOOD—AN EMERGING SPECIALITY





#### Formal Board Recognition

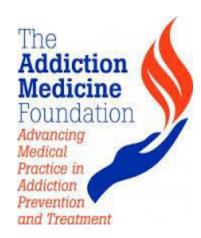
- ASAM certification offered in 1995
- ABAM started in 2008
- Over 3,000 diplomats currently
- Addiction Medicine is now recognized as a medical specialty by the ABMS
- April 12, 2016, AOA followed suit
- American Board of Preventive
   Medicine now certifying physicians





#### Addiction Medicine Fellowships

- There are 40 accredited addiction medicine fellowships.
  - Goal is to have 65 by 2020 and 125 by 2025.
- Addiction Fellowships are sprouting all over the country





#### **Buprenorphine Prescribing Limit**

- DATA 2000 amended as of August 8, 2016
- New Limit is 275 patients
  - Physician must possess a current waiver to treat up to 100 patients
  - Must have maintained that waiver without interruption for at least one year and meet one of the following requirements
    - Board Certified in Addiction Medicine or Addiction Psychiatry
    - Practice in a "qualified practice setting"
- Nurse practitioners and Physician Assistants can now prescribe

#### What is a "Qualified Setting"?

- Provides coverage for patient medical emergencies after hours
- Provides access to case-management services for patients including referral and follow-up services such as medical, behavioral, social, housing, employment, educational, or other related services
- Uses electronic health records to store, share, and analyze health information
- Is registered for their State prescription drug monitoring program (PDMP)
- Accepts third-party payment for costs in providing health services



#### **NARCAN**



- FDA approved to treat opioid overdose
- Voice activated
- Analogous to epinephrine pen
- Need to link patients given Narcan to treatment programs



#### 2014 Survey of Primary Care Physicians

- 580 primary doctors surveyed in 2014
- 85% "say they believe that opioids are overused in clinical practice."
- "Surprisingly, despite concerns about overprescribing, nearly all physicians surveyed (88 percent) expressed confidence in their own ability to prescribe opioids appropriately."
- "Prior studies have shown that most doctors believe their colleagues' prescribing decisions are swayed by pharmaceutical marketing and promotion, yet they themselves are immune to such effects."

Source: jhsph.edu

## Brandeis University, the University of North Florida and Johns Hopkins University Study 12/29/2014

 "I think we have overestimated the benefits of prescription opioids and underestimated their risks"

- "Although opioids have many risks, their addictive potential is of especially great concern."
  - Caleb Alexander, MD

Opioid and heroin crisis triggered by doctors overprescribing painkillers - Science Daily 2014 http://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-031914-122957

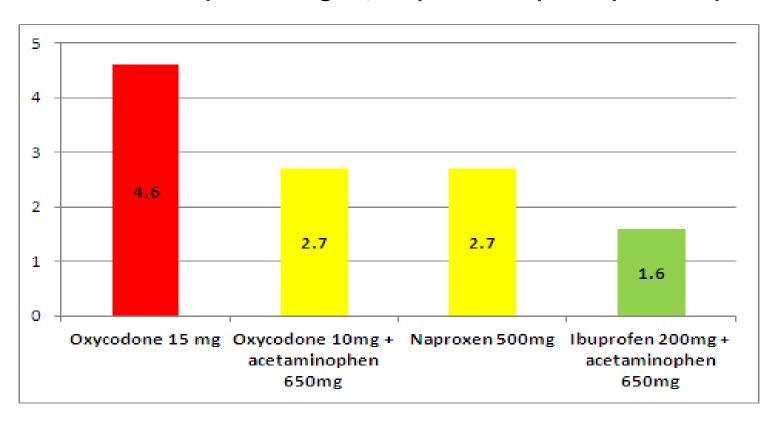
## AAN Position Paper "Opioids for chronic non-cancer pain"

"Whereas there is evidence for significant short-term pain relief, there is no substantial evidence for maintenance of pain relief or improved function over long periods of time without incurring serious risk of overdose, dependence, or addiction."

Franklin GM. "Opioids for chronic noncancer pain: A position paper of the American Academy of Neurology". Neurology. 2014 Sep 30;83(14):1277-84

## National Safety Council White Paper Evidence for the Efficacy of Pain Medications

#### NNT for one person to get 50% pain relief post-operatively



Teater, Donald. (2014, October 6) "Evidence for the efficacy of Pain Medications." [White Paper]. National Safety Council. Retrieved October 10, 2014

### National Safety Council White Paper Evidence for the Efficacy of Pain Medications

- NO EVIDENCE of Benefit for Opioids used
   >4mo
- No evidence of decreased suffering- No overall improvement in back & neck pain disability
- Denmark Study- Chronic opiates = higher pain, lower QOL, less functional

## Long-Acting Opioids Increase Mortality in Patients With Chronic Non-cancer Pain

- Retrospective cohort study between 1999 and 2012 of Tennessee Medicaid patients with chronic non-cancer pain and not on hospice
- Prescription of long-acting opioids for chronic non-cancer pain, compared with anticonvulsants or cyclic antidepressants, was associated with a significantly increased risk of all-cause mortality, including deaths from causes other than overdose
- Risk was 1.64 times greater than that for matched patients corresponding to 69 excess deaths per 10,000 person-years of therapy.
- JAMA. 2016;315(22):2415-2423. doi:10.1001/jama.2016.7789

#### CDC Issues New Guidelines

March 16, 2016

- Opioids are not first-line or routine therapy
- Establish and measure goals for pain and function
- Check PDMP
- Use UDS's
- Avoid concurrent benzo & opioid prescribing
- Arrange treatment for opioid use and disorder if needed.

www.cdc.gov/drugoverdose/prescribing/guideline.html



#### CDC Suggestions to Reduce Overdose Deaths

- Limit initiation into opioid misuse and addiction through education of healthcare providers
- Expand access to medication-assisted treatment for people with opioid use disorder
- Expand access to naloxone
- Get state and local public health agencies, medical examiners and coroners, and law enforcement agencies to work together to improve detection of and response to illicit opioid overdose outbreaks.

Source: http://www.cdc.gov/media/releases/2015/p1218-drug-overdose.html



#### SUPPORT for Patients and Communities Act

- Passed through Congress on 10/4/18 with overwhelming bipartisan support
- Loan repayment relief to addiction treatment professionals who practice in high-need areas
- Medicare demonstration program that covers evidencebased outpatient treatment for beneficiaries with opioid use disorder
- Partial repeal of the Medicaid IMD exclusion that allows state Medicaid programs to cover inpatient treatment in residential facilities

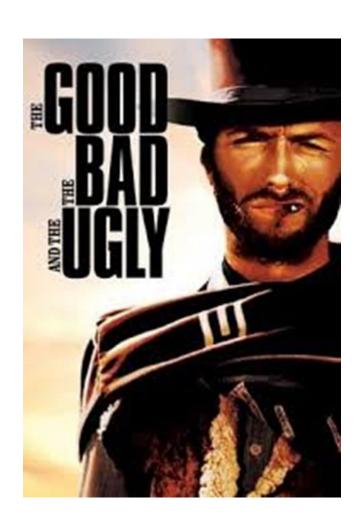


## How did we get here?





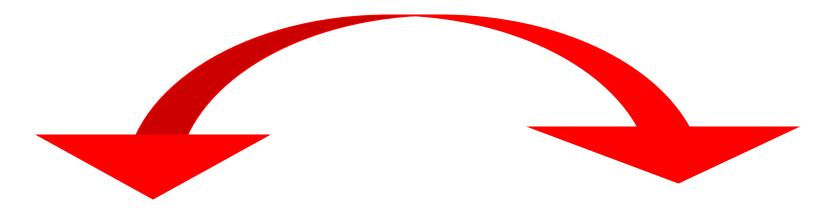
#### THE BAD—OPIOIDS AND CHRONIC PAIN





- A perception which begins with a stimulus and is subject to physical and psychological influence
- May be inhibited if fear for survival is strong enough
- May be magnified if psychological need for pain is great enough





**NEUROPHYSIOLOGIC** 

**PSYCHIATRIC** 



- Beecher attempted to define and quantify pain (1957)
- Exhaustive Review
- Cited 850 references
- Conclusion:

BEECHER, H. K. The measurement of pain. Pharm. Rev., 1957, 9, 59-209



"because pain is subjective it cannot be described so that it is meaningful to another person"



- Acute Pain
- Chronic Pain
  - Pain of Malignant Origin
  - Pain of Benign or Non Malignant Origin



#### **OPIOIDS**

- Indicated for Acute Pain Only
- Every Pharmacokinetic Study: based on acute pain model based on noxious stimulus



#### **ACUTE PAIN**

- Response to tissue damage
- Important biological function
- Treatment directed to Etiology
  - Rest, Analgesics (1-3 weeks)
  - Opioids are effective



## Chronic Pain (Malignant Origin)

- Tissue damage due to malignancy
- Tissue damage due to treatment
- Combination of recurring Acute Pain and Chronic Pain factors
- Treatment
  - Pharmacologic
  - Escalate opioids in response to tolerance
  - Parenteral/intrathecal administration
  - Physical and psychological rehab



## Chronic Pain (Benign Origin)

- Tissue Damage at Onset
- Becomes chronic at 6 month mark
- Persists due to:
  - Tissue not returning to normal function
  - Psychological and/or Pharmacological factors
- Treatment: Rehabilitation

As with any other disability



#### Factors that Worsen CHRONIC PAIN

(>6 month duration)

- Opioids & other Narcotics (Long, 1975, Gildenberg, 1996)
- Depression
- Physical Regression
- Psychological Regression
- Intolerance to Stress



### Opioids for Chronic Pain

- No study demonstrating long term functional improvement
- No study demonstrating long term analgesia



#### Negative Effects with Chronic OPIOID use

- Tolerance eliminates analgesia
- Withdrawal increases pain
- Suppress endorphins
- Suppress testosterone, estradiol
- Worsen depression
- ADDICTION
- Pain Improves with Detox



## Opioid Induced Hyperalgesia

 Methadone maintenance patients have lower pain thresholds than controls, cocaine addicts and former heroin users not on methadone

Source: Cold-pressor pain intolerance in opiate and cocaine abusers: correlates of drug type and user status. Journal of Pain and Symptom Management. 1994: 9:462-473



#### **NARCOTICS**

**PAIN** 

WITHDRAWAL

MORE NARCOTICS

MORE PAIN



## Benzodiazepines

- Tolerance & Withdrawal
- Increase Pain
- Disrupt Normal Sleep
- Accidental Overdose with Opioids
- ALMOST NEVER INDICATED
- ALMOST ALWAYS PRESCRIBED

-The Practice of Neruosurgery Vol. III

Tindall, Cooper, Barrow



#### **BENZOS**

**ANXIETY** 

WITHDRAWAL

MORE BENZOS

MORE ANXIETY



## Depression

- Heightens pain perception
- Consequence of disability (in a motivated patient)
- Intensified by:
  - Family disruption
  - Financial loss
  - Legal problems
  - Bureaucratic stresses
- Pain improves with Anti-depressants

The Practice of Neurosurgery Vol. III
- Tindall, Cooper, Barrow



#### **DEPRESSION**

**PAIN** 

HEIGHTENED PAIN PERCEPTION

MORE DEPRESSION

MORE PAIN



## Physical Regression

- Patient Driven
  - Decreased activity due to pain
- Physician Driven
  - Instructed to decrease activity
- Muscle Weakness
- Pain Increases with Activity



## Psychological Regression

- Decreased recreational, social and adult responsibilities
- Increasingly more dependent on caregivers
- Live centered on pain
- Physical therapy/recreational therapy



#### **INACTIVITY**

**PAIN** 

MUSCLE WEAKNESS

MORE INACTIVITY

PAIN WITH ACTIVITY



## Stress

- Muscle Tension/Spasm
  - Financial Strain
  - Insurance Companies
  - Legal Proceedings
  - Daily Annoyances
  - Biofeedback/Relaxation Techniques



#### **STRESS**

**MORE PAIN** 

MUSCLE TENSION

MORE STRESS

**MORE PAIN** 



## Chronic Pain Management

#### **PROBLEM**

- Narcotics
- Depression
- Physical/Psychological Regression
- Stress

#### SOLUTION

- Discontinue/Treat Addiction
- Antidepressants and Counseling
- Increase Activity
  - P.T., Exercise, Massage, Yoga, Recreational Therapy, Acupuncture
- Biofeedback, Relaxation
- Guided Imagery

-Neurological Surgery Vol. 6 (Pain) Youman



## **OPIOIDS**

# If they don't work, why are they so popular?







### Factors Influencing Opioid Use in Chronic Benign Pain

# "Pain Experts"

- Junk Science
- Pharmaceutical Company Influence
- JCAHO



## PORTENOY

- Internist, NYC, 1980s
- Undertreated pain-cancer patients
- Promotes liberal use of opioids
- Adds non-cancer patients
  - addiction only rare-occurring drawback



"Pain is a little science, a lot of intuition, and a lot of art"

-Russell Portenoy, MD

Now admits the "research" used to promote long acting opioids was pseudoscience.

--He received millions of dollars over the preceding decade in funding from opioid makers including Endo, <u>Abbott Laboratories</u>, Cephalon, Purdue Pharma and <u>Johnson & Johnson</u>

https://www.wsj.com/articles/SB10001424127887324478304578173342657044604 12/17/2012



"the terminology of substance abuse, as discussed elsewhere in this volume, was developed by specialists in addiction, whose frame of reference is the addict, rather than the medical patient receiving opioids for pain. It is necessary to clarify this terminology when applying it to the assessment of medical patients."

-Substance Abuse, Lowinson, et al, 4<sup>th</sup> edition Published Oct 2004



#### Factors Influencing Opioid Use in Chronic Benign Pain

"Pain Experts"

## Junk Science

- Pharmaceutical Company Influence
- JCAHO



"Get your facts first, and then you can distort them as much as you please."



- Mark Twain



### Substance Use Disorders (SUD) & Chronic Pain

PORTER, J., & JICK, H. (1980).
 Addiction rare in patients treated with narcotics.

New England Journal of Medicine, 302, 123.

- Boston Collaborative Drug Surveillance Project
  - Reviewed 39,946 hospital records
  - 11,882 received narcotics
  - Only 4 documented cases of addiction
    - 2 meperidine, 1 oxycodone, 1 hydromorphone



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### ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

To the Editor: Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients¹ who were monitored consecutively. Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. The addiction was considered major in only one instance. The drugs implicated were meperidine in two patients,² Percodan in one, and hydromorphone in one. We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.

JANE PORTER
HERSHEL JICK, M.D.
Boston Collaborative Drug
Surveillance Program
Boston University Medical Center

Waltham, MA 02154

1. Jick H, Miettinen OS, Shapiro S, Lewis GP, Siskind Y, Slone D. Comprehensive drug surveillance. JAMA. 1970; 213:1455-60.

 Miller RR, Jick H. Clinical effects of meperidine in hospitalized medical patients. J Clin Pharmacol. 1978; 18:180-8. 17,000 U per square me remissions (except for the tral-nervous-system therap trathecal injections of m both). During complete remine (70 mg per square meter each week), and couthree to four months.

Results are shown in T tion by Dr. Bitran that in T-cell leukemia has a poor ever, because of the limite up, the present data are fithis point is needed. The id lymphoblastic anemia in a induction therapy but also lished poor prognosis couplantation during the first the time being it may be lished criteria, such as age

40138 Bologna, Italy

"There are three kinds of lies: Lies, Damn Lies, and Statistics."



- Mark Twain



## Before Portenoy

# Drug Misuse in Chronic Pain 100 Consecutive patients admitted to Johns Hopkins Pain Treatment Program in the mid 1970s

•	Addicted to Narcotics	90%
•	Misusing/Abusing Narcotics	90%
•	Misusing/Abusing Psychotropics	80%
•	Prescriptions from multiple physicians	>50%
•	Withdrawal symptoms	90%

Inappropriate combinations of drugs

or inappropriate ingestion

97%

Fairbanks

Experts in addictions. Focused on recovery.

## After Portenoy

- Portenoy and Foley, 1986, Pain
  - 5% addiction with chronic opioid treatment

- Fishbein, et al, 1992, Clincal Journal of Pain
  - Review article, upper limit of addiction rates at 19%

## SUDs & Chronic Pain

Cleveland Clinic (2010)

>30% of patients in the Chronic Pain Rehabilitation Program have an active Substance Use Disorder.



## SUDs & Chronic Pain

- Martell, et al (2007) Systematic Review: Opioid Treatment for Chronic Back Pain: Prevalence, Efficacy and Association with Addiction, Annals of Internal Medicine. 2007; 146:116-127
- Meta-analysis of 38 studies
- Prevalence of SUD in chronic back pain patients receiving opioids with a lifetime prevalence as high as 54%



#### Factors Influencing Opioid Use in Chronic Benign Pain

- "Pain Experts"
- Junk Science
- Pharmaceutical
   Company Influence
- JCAHO



## Morphine

Early 1800s

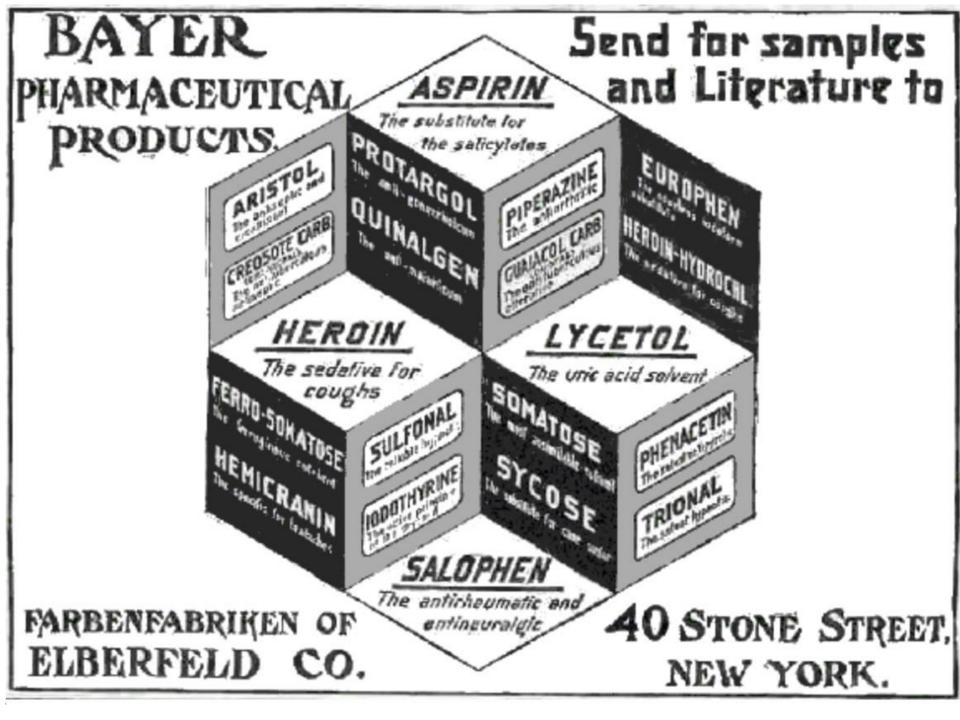
- Developed as a less addictive alternative to opium
- Civil War vets treated
- "Soldiers Disease"
  - Civil War Vet Addicts
- Named after Morpheus
  - (god of dreams)300,000 addicts in 1900



## Heroin

- Developed in 1874 by C.R. Adler Wright
- Bayer pharmaceuticals released it over the counter in 1895
- "Less addictive" alternative to Morphine
- 3 times more potent than Morphine





## Dilaudid

- First synthesized and researched in Germany by <u>Knoll</u> (first patent 1922)
  - Today owned by Abbott Laboratories

- Touted as less addictive form of morphine
- 4 times stronger than morphine



## Percodan

- Developed in 1950 by Endo
- 1963 Attorney General of California states Percodan responsible for ¼ of all addiction statewide
- Endo's Response
  - Percodan has little or no addictive potential



## OxyContin

- Released in 1995 Purdue Pharma
- "Delayed absorption as provided by OxyContin tablets is believed to reduce the abuse liability of the drug"
  - FDA Examiner, Curtis Wright, MD okayed this label
  - Curtis Scores Big Job at Purdue!!
- "Medical Newsletter" widely distributed to Physicians reports a "study" reveals ONE in every household is suffering from undertreated pain – 2 weeks later OxyContin is introduced



## Oxycontin

- David Haddox, MD, DDS Emory/Atlanta, Psychiatry/Addiction coined term "pseudo-addiction"
  - Now the VP, Health Policy at Purdue Pharma
  - Does damage control
    - Incidence of Addiction <1%</li>
- "We do <u>not</u> want to niche OxyContin just for cancer pain," a marketing executive explained to employees planning the drug's debut, according to minutes of the 1995 meeting.



## Thebaine

- From Poppy Plant
- Used to Produce Oxycodone
- Thebaine rich poppy grown in Tasmania
- Production and export to U.S. after OxyContin release increased so much it drew the attention of the International Narcotics Control Board



## PAIN KILLER

A "WONDER"

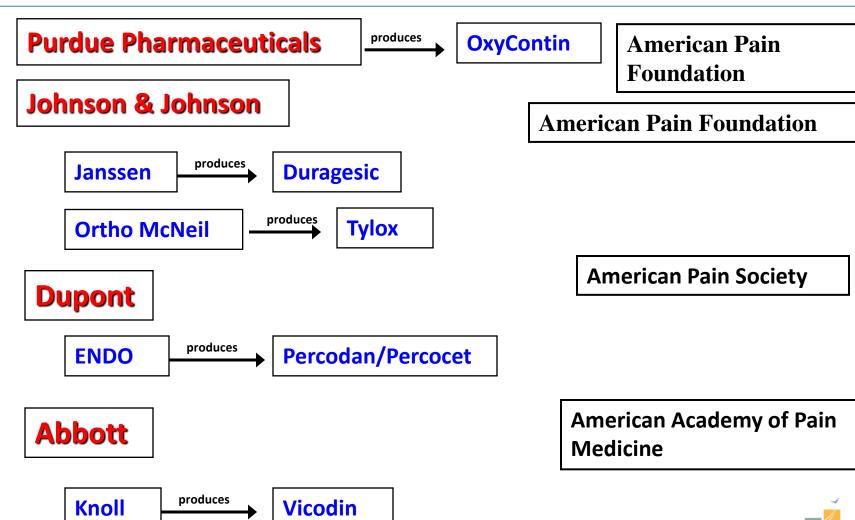
DRUG'S TRAIL

OF ADDICTION

AND DEATH

BARRY MEIER

#### **FUND:**





#### Factors Influencing Opioid Use in Chronic Benign Pain

- "Pain Experts"
- Junk Science
- Pharmaceutical Company Influence
- JCAHO



## IMPLEMENTATION STRATEGIES JCAHO Pain Standards

- Introduced in July 2000
- Include pain treatment in patient Bill of Rights
- Screen all patients for pain on admission and regularly thereafter
- Ensure competency of staff and physicians in pain assessment and management
- 5<sup>th</sup> Vital Sign



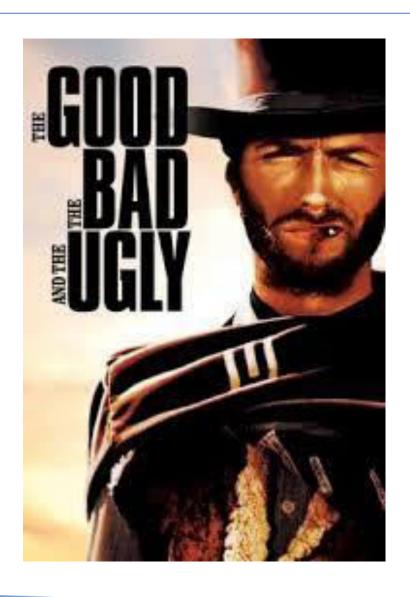
### IMPLEMENTATION STRATEGIES JCAHO Pain Standards

 Ask every patient on admission: "Do you have pain now?" If yes, obtain additional data (Initial Pain Assessment Tool).

- Standardize the use of pain scales
  - JCAHO did not appreciate Beecher (1957)



#### The UGLY—OUR PATIENTS ARE DYING





# "There are 50 million people in this country who are undertreated for pain" -Howard Heit, MD

2009 ASAM Annual Conference New Orleans, LA



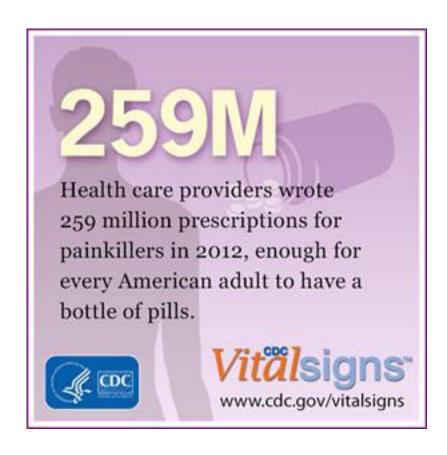
#### Broward County, Florida

- 117 "pain clinics" (pill mills)
- 70 McDonald's Restaurants
- Oakland Park Boulevard had 31 different pain clinics on it

Orlando Sentinel, Feb. 2011



#### **CDC** Statistics



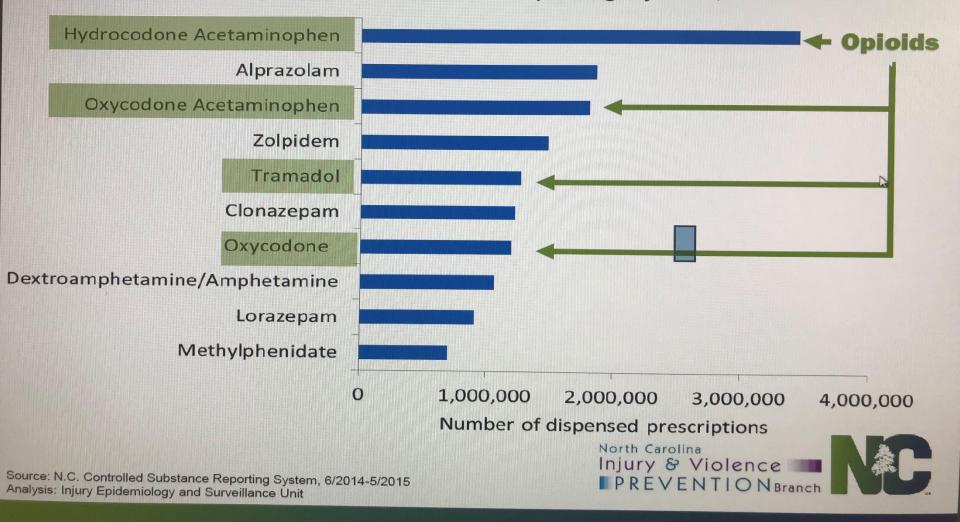
Source: http://www.cdc.gov/drugoverdose/data/prescribing.html



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#### **Top 10 Prescribed Controlled Substances**

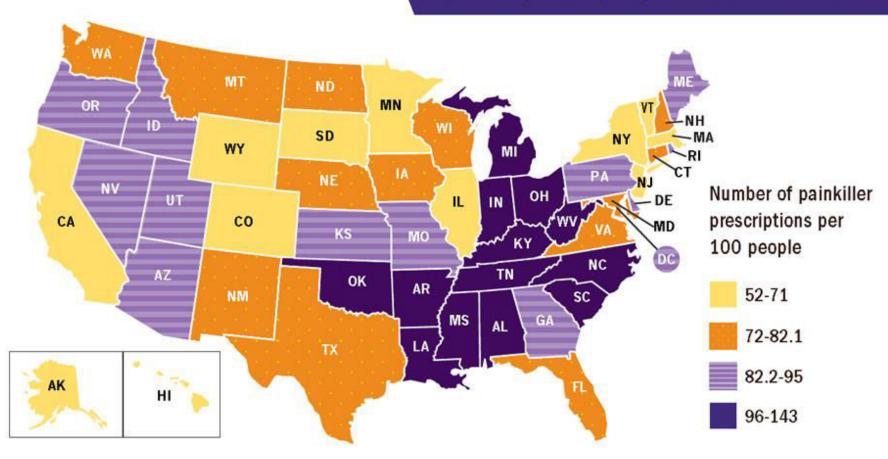
North Carolina Controlled Substance Reporting System, 6/2014-5/2015



North Carolina Population in 2015: 10 million

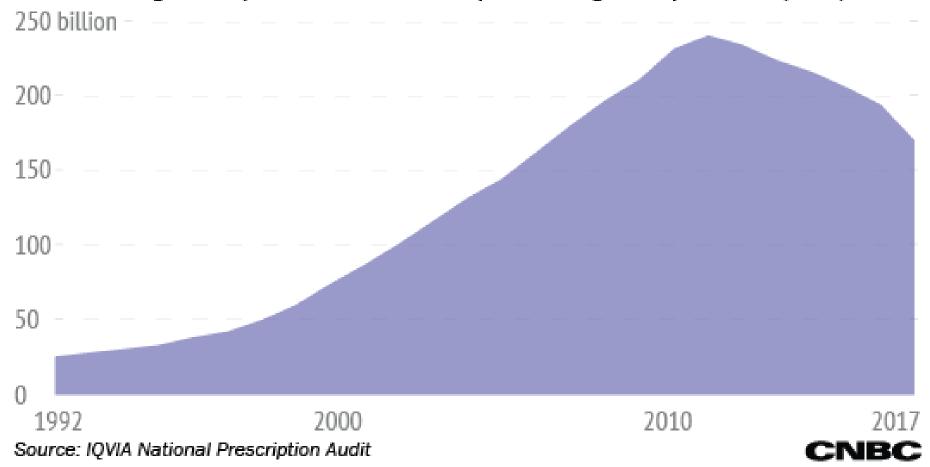


### Some states have more painkiller prescriptions per person than others.



SOURCE: IMS, National Prescription Audit (NPA™), 2012.

Opioids of the masses
Narcotic analgesic dispensed volume in morphine milligram equivalents (MME)



- Between 1999 and 2002
  - Oxycodone prescriptions increased 50% to 29 million
  - Fentanyl prescriptions increased 150% to 4.6 million
    - 80% Fentanyl patches prescribed for nonmalignant pain-approved only for cancer pain
  - Morphine prescriptions increased 60% to 3.8 million



Pharmaceutical drug distribution:
1997-equivalent 96mg morphine/person
2007-equivalent 700mg morphine/person
>600% increase

This is enough for everyone in the U.S. to take 5mg hydrocodone Q 4hr for 3 weeks -JAMA, 2-22/29-2012



- During the time (2001-2006) the most prescribed medication of any category in the US has been:
  - Hydrocodone/Acetaminophen over 100 million prescriptions in 2005
- In 2004, the United States used 99% of the world's supply of hydrocodone

- JAMA, 1-17-2007



#### Opioid Prescriptions Drop for First Time in Two Decades

- Opioid prescriptions have fallen in 49 states since 2013
  - Sorry North Dakota
- Hydrocodone has been the largest decline
  - No longer the number one prescribed drug in America
- Fatal overdoses from opioids have continued to rise, taking more than 28,000 lives in 2014

- http://www.nytimes.com/2016/05/21/health/opioid-prescriptions-drop-for-first-time-in-twodecades.html?\_r=0
- New York Times, May 20<sup>th</sup>, 2016



#### FOR EVERY ACTION...

 As we have been more reluctant to prescribe high dose opiates to patients, the heroin market has taken off and patients have been overdosing at exponential rates.

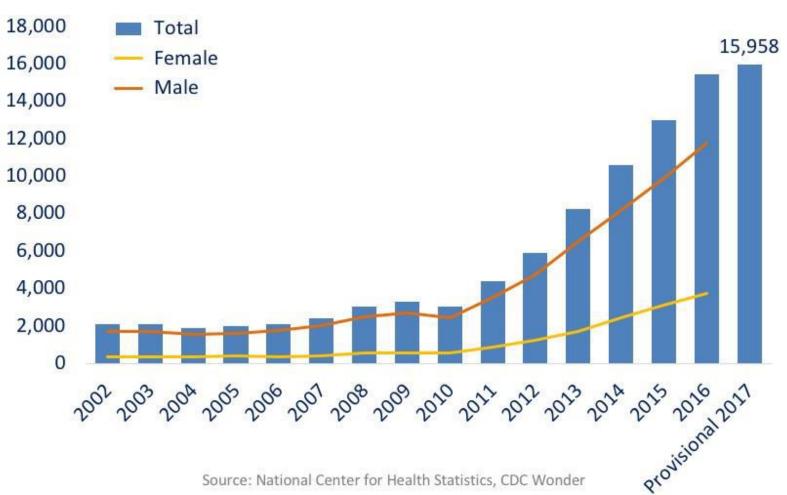




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#### **National Overdose Deaths**

#### Number of Deaths Involving Heroin

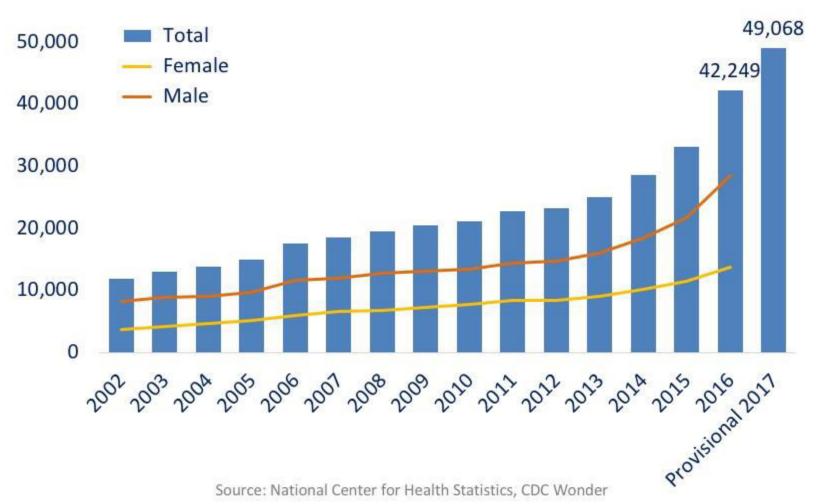






#### **National Overdose Deaths**

#### Number of Deaths Involving Opioids

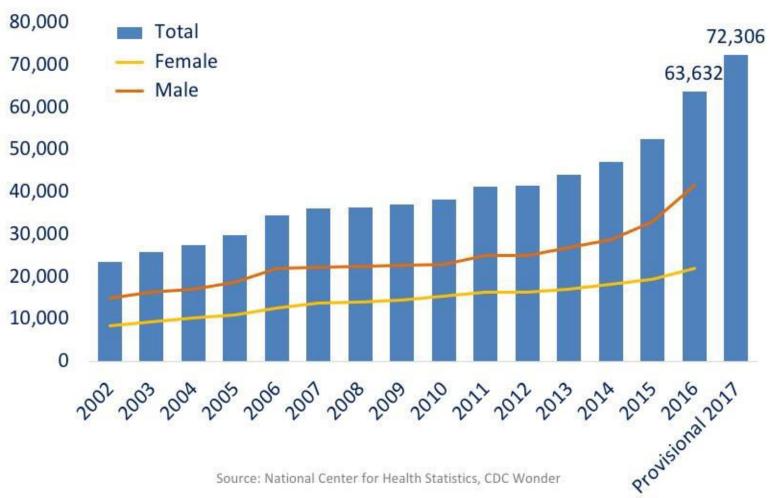




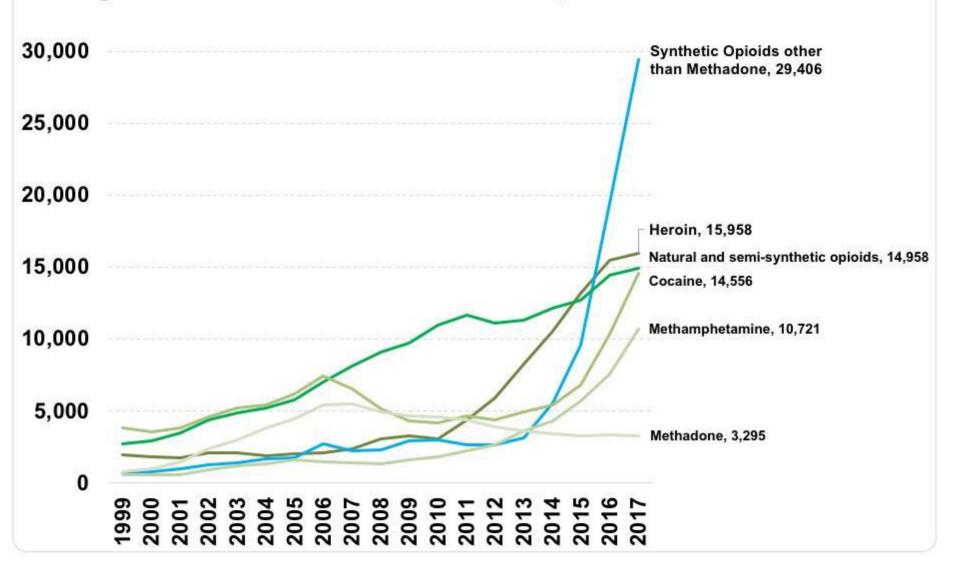


#### **National Overdose Deaths**

#### Number of Deaths Involving All Drugs







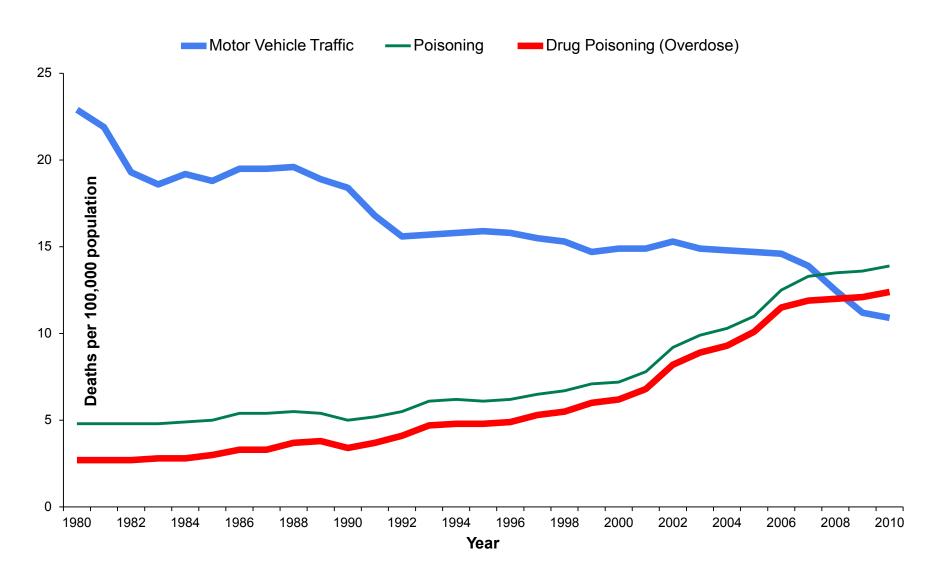
- North Carolina MB/PHP 2011
- 3 deaths/day
  - Accidental Rx drug overdose
  - Highest percentage of deaths:

Pts on high daily doses of opioids Rx'd by their own Family MD

Forum North Carolina Medical Board Winter 2012

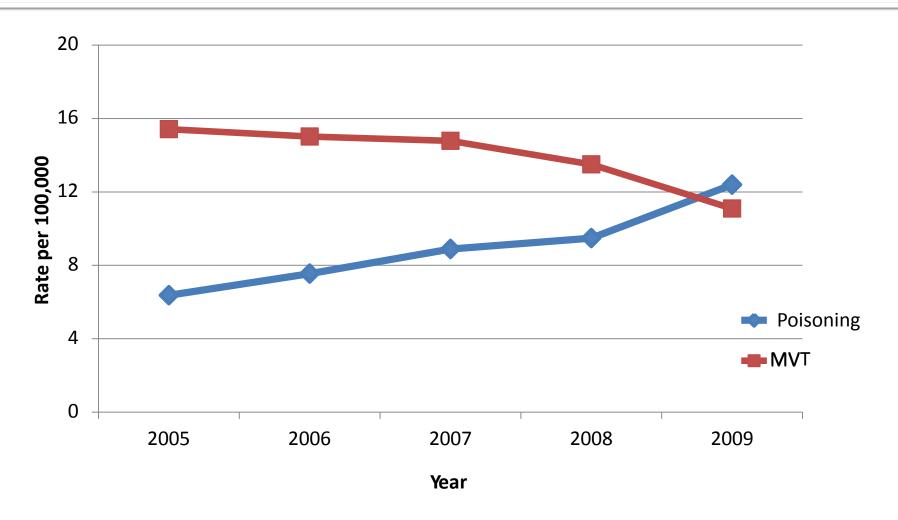


#### MVA vs. Poisoning Deaths Nationally

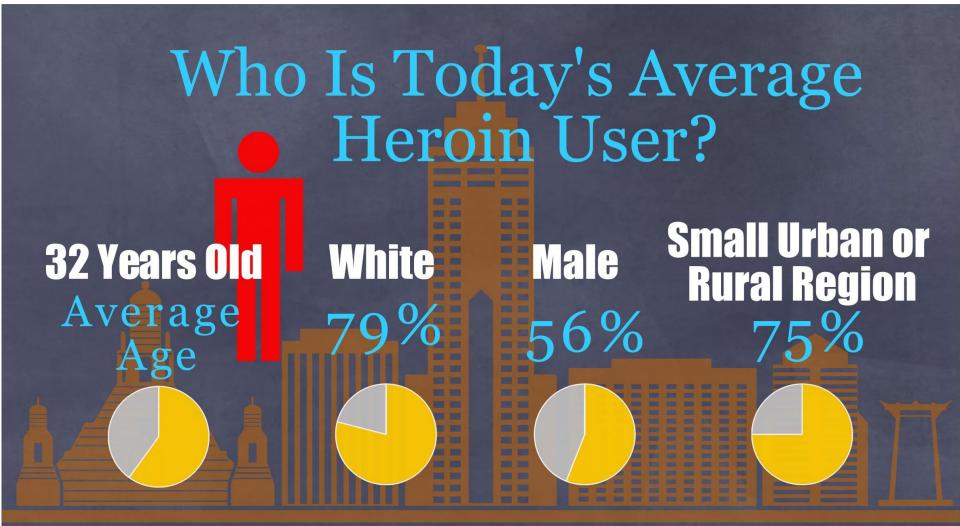


NCHS Data Brief, December, 2011. Updated with 2009 and 2010 mortality data

#### Unintentional Poisoning and Motor Vehicle Traffic Death Rates, Age-Adjusted, Indiana, 2005 – 2009



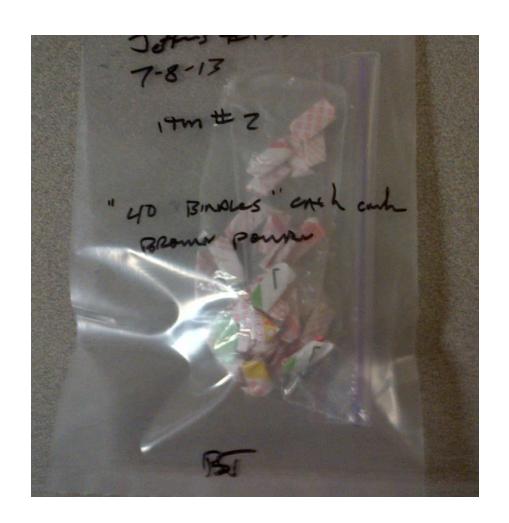
Source: Centers for Disease Control and Prevention, WISQARS Database



Source:

Cicero TJ, Ellis MS, Surratt HL, Kurtz SP. The Changing Face of Heroin Use in the United States: A Retrospective Analysis of the Past 50 Years. JAMA Psychiatry. 2014;71(7):821-826. doi:10.1001/jamapsychiatry.2014.366.

#### Heroin Bindles (\$15 to \$25 will buy you 1/10 gram)







94

# Indianapolis Heroin Balloons \$10 each 10% to 50% Pure



#### Philadelphia Marketing Stephen Curry \$25 each





"I've seen the needle and the damage done a little part of it in everyone, but every junkie's like a setting sun..."

The needle and the damage done Neil Young



#### **Imodium**





#### SOLUTIONS

"for every complex problem there is a solution that is simple, neat and wrong."

H.L. Mencken



#### SOLUTIONS

- Education
- Medical/Dental School, providers, public
- Pharmaceutical Industry
- Regulate/provide addiction treatment
- Prescription monitoring
- DEA



# SOLUTIONS Prescribing for Chronic Pain

- Evaluation
- Treatment Plan
- Informed Consent
- Periodic Review
- Consultation

68 cases public discipline 2010 NCMB "improper prescribing"

#### Questions?



